



Agenda Item 4A
Appendix A
Policies Underlying Network Rate Changes

Department of Technology Services Policies Underlying Network Rate Changes

February 14, 2007

Background

The mid-year rate package approved by the Technology Services Board in January included significant changes to the rates charged by the Department of Technology Services (DTS) for network services. Consistent with the DTS Guiding Principles for Cost Allocation and Rate Setting and the stated goal of consolidating data center rates and aligning them with costs, the mid-year rate package included the consolidation of the two existing rate schedules for network services into one and provided for full recovery of the costs of providing network services. Given that there were considerable differences between how the former HHSDC and Teale Data Center delivered network services and recovered the associated costs, the consolidation of these rate schedules was a complex yet critical step forward in the evolution of the DTS.

The need to fully recover costs for DTS Network Services will require that some customers see an increase in their DTS invoices. In order to correct the historical under-recovery of network costs, the DTS needed to make changes to rates that would produce a significant net increase in total revenue collected. Former Teale customers with “hub and spoke” configurations will experience the largest rate increases. Identifying if, when and how customers experiencing increases will be made whole remains a critical ongoing issue for DTS and the affected customers.

The DTS employed an enterprise perspective to the cost recovery of shared network resources (network backbone), resulting in concerns of fairness from customers that currently use a minimum of these shared resources. Given the significant investment and current operational benefits of the existing backbone architecture, the DTS based the new network rate structure on the premise that the backbone is a shared resource of the enterprise and the associated costs should be recovered from all customers to which its benefits are available. However, there are customers, who currently contribute very little to the traffic that traverses the backbone and as such, view charges related to the backbone infrastructure as unfair. Resolution of this issue is not only a matter of *if* customers are currently using the backbone infrastructure available to them, but also whether they *should* be using it.

Policy Issues – DTS Network Rate Development

The three primary policy issues underlying the development of the network rate changes are listed below. These Issues are displayed in more detail in Attachment I.

General Cost Recovery – Implementation of the general principle that the rates charged for Network Services should recover the related costs. This is not a controversial issue because the underlying policy decision is straight-forward and

does not have any specific operational impact. However, it is important to note that it is the primary reason that customer invoices are increasing.

Ownership/Refresh of Edge Equipment – The new network rates are based on a policy of transferring the responsibility for refresh of edge equipment from former Teale Customers to DTS. This is not a particularly controversial issue, because only the cost recovery methodology is changing while the net cost should stay very close to the same and many customers agree with the operational benefits of the proposed approach.

Recovery of Network Backbone Costs – The backbone is a shared resource that must be recovered through rates in a reasonably equitable way and consistent with an enterprise perspective. This is a controversial issue, because it materially effects *how* the network costs are recovered and in turn, how the revenue increase required will affect each customer.

DTS Plan of Action

Forward Enterprise Network Policy Issues to the State CIO Office for resolution:

Of the three policy issues discussed above, only the Recovery of Network Backbone Costs is considered an outstanding issue. This is due to the fact that it is based on the premise of an “enterprise perspective” as applied by the DTS. However, given differences of opinion among stakeholders regarding the validity of the backbone architecture assumption, the resolution of this issue is one of Enterprise Network Architecture and Policy and needs to be resolved by the State CIO’s Office. Among the questions to be answered are whether the State will continue to employ a “backbone” network architecture and what rules should govern customer use of the enterprise network and configuration of connections to it.

Move to Relieve Pressure from Budget Impacts Expeditiously – This issue must be resolved quickly in order to ensure customer programs are not negatively impacted by the rate change and to facilitate the discussion of the relevant Network Policy issues by diffusing the immediate crisis that this issue creates for customers. DTS will work with the Department of Finance toward the following objectives to be completed by the March 21, 2007 meeting of the TSB:

- a. Provide assurance to customers with network cost increases as a result of the rate proposal that their existing programs will not be negatively affected by the rate changes.
- b. Identify a funding mechanism to appropriately address customer impacts given potential changes posed by Enterprise Network Policy, CALNET II, and any changes to the rates and/or customer network redesigns that result.

Move forward with network rate proposal as proposed unless significant changes are determined to be necessary. Given the critical step forward that the network rate package represents in terms of consolidating and simplifying the DTS network rate schedule and improving cost recovery, the DTS will continue with the implementation of

the proposed rate package. However, the DTS recognizes that the results of the proposed actions above, or lack thereof, may require changes to be made and/or implementation to be delayed.

Attachment I: Policy Issues – DTS Network Rate Development

Policy Issue	Customer Impact
<p>GENERAL COST RECOVERY</p> <p>SUMMARY: Implementation of the general principle that the rates charged for Network Services should recover the related costs.</p> <p>Previously: The revenues collected for Network Services for Gold Camp and Cannery customers in 2005-06 would need to be increased by 35 percent and 16 percent respectively in order for the service area to recover its costs. The two previous data centers had very different approaches to service delivery and cost recovery for network services. The two distinctly different rate schedules are currently in use and will continue to be employed through the 2006-07 fiscal year.</p> <p>Now: Service delivery models are already aligning. The network rates (whatever the structure) need to fully recover the costs of five areas (referred to as Rate Categories in Proposal):</p> <ol style="list-style-type: none"> 1. Access Equipment 2. Access Site Support 3. Access Circuit 4. Backbone Support 5. Backbone Circuit Costs 	<p>Financial: Significant – The required increase in revenue needs to come from network rates in one manner or another. The critical issue is how the costs should be recovered (rate structure) – the DTS solution to this issue was proposed and approved in the mid-year rate package and used the five rate categories as a framework and an enterprise perspective when policy decisions were required. Decisions driven by the “enterprise perspective” had a material effect on determining how each customer would be affected by the required revenue increase.</p>
<p>OWNERSHIP/REFRESH OF EDGE EQUIPMENT (RATE CATEGORY 1)</p> <p>SUMMARY: Transferring from former Teale customers to DTS, the responsibility for refresh of edge equipment.</p> <p>Previously: Former Teale customers decided when to refresh equipment and paid purchase cost and maintenance (usually after three years) as a pass-through.</p> <p>Now: DTS controls the refresh of edge equipment and assumes an average useful life of five years for the purpose of cost recovery. The five-year cost of equipment and maintenance is totaled and split into 60 equal “lease” payments.</p>	<p>Financial: Minimal – The methodology is changing, but the net cost should stay very close to the same. This change just alters the timing of the payments. Net cost only changes to the extent that customer refresh cycles were different than the five-year proposed cycle.</p> <p>Operational: Increases the State's ability to manage edge equipment life cycles by centralizing that responsibility.</p> <p>This issue does not appear to be very controversial at this time – some customers are very supportive.</p>

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	Given that the lease charges will not begin until current equipment is refreshed, this is more of an operational impact than a financial one and the change does not materially affect the cost recovery picture.

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<p>RECOVERY OF BACKBONE COSTS</p> <p>SUMMARY: The backbone is a shared resource that must be recovered through rates in a reasonably equitable way. Rate Categories 4 and 5 represent DTS proposal for recovery.</p> <p>Rate Category 4 recovers the hardware and Support Cost for the Backbone – The DTS totaled the support cost and divided it by the total number of Customer Access Circuits.</p> <p>Rate Category 5 recovers the Circuit Costs of the Backbone – The DTS proposes that this cost be recovered as a charge of 25 percent of the customer's access circuit costs because Total Backbone circuit costs equal approximately 25 percent of the Total Access circuit costs.</p> <p>Previously: The Cannery network did not employ a Backbone-based architecture. As a result of the Distribution Layer move, these customers are now on the backbone and many Cannery customers have seen savings (even under the new rate structure) due to the elimination of interlata (long-distance) charges.</p> <p>The current CSGnet rate schedule, which has not been materially changed in 20 years, bundles the recovery of backbone costs with the access site support charge. However, there is a great disparity between the monthly support rate for sites that connect directly to the backbone (\$5,000, \$1,000 and \$700) and those that do not (\$200). In many cases, this has led customers and CSGnet Network Engineers to design networks that minimize connections to the Backbone.</p> <p>Now: Customers will be charged for backbone costs regardless of the number of connections directly to the backbone or the exact volume of traffic that traverses the backbone. This structure was applied from an enterprise perspective in that the backbone provides a robust, redundant infrastructure for interlata transfer of data. If a customer chooses not to</p>	<p>Financial: Very Significant for CSGnet customers that have a minimum of direct connections to the backbone.</p> <p>However, most Cannery customers are seeing savings because 1) the magnitude of general under-recovery was less and 2) the elimination of interlata charges that resulted from connecting to the backbone as part of the Distribution Layer Move project provided significant offsets to the Backbone recovery charges.</p> <p>Operational: Customers impacted the most may need to pursue design changes that would mitigate the cost increases. In most, if not all cases, this will reduce the cost to the state, even if it does not completely mitigate the specific customer's financial impact.</p> <p>Further, there are customers that assert that there are operational reasons for maintaining minimal connections to the DTS backbone. These should be evaluated in the context of an Enterprise Architecture/Policy and if it is determined that there are operational needs that make the assumptions made in the rate package invalid, the appropriate changes to the rate package should be made.</p> <p>This is the most controversial policy issue for customers.</p>

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<p>use it, the State is in effect paying for interlata connectivity twice; once for the backbone and again through the long distance charges applied to the customer's interlata connections. The proposed rate package would pass this "double-charging" to the customer as they would pay the long distance through Rate Category 3 and a share of the backbone through Rate Category 5.</p>	